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The mark of bodily ownership

FREDERIQUE DE VIGNEMONT

When I touch the table, I have a sensation of pressure *on my hand*. My tactile sensation includes sensations of resistance, texture and temperature, as well as the sensation of the hand location where the pressure occurs. But does it also include a distinctive experience of the hand as of my own? I am aware that this hand is mine. But is the sense of ownership of my hand manifested to me in a more primitive form than beliefs or judgements? Is there an *experience of ownership* independent of the *judgement of ownership* at the doxastic level (for a similar distinction within the sense of agency, see Bayne and Pacherie 2007)? Bermúdez (2011) has recently argued in favour of a deflationary account of the sense of ownership, according to which there is nothing it feels like to experience one's body as of one's own. On his view, the sense of ownership is exclusively judgemental; it has no counterpart at the experiential level. To some extent, Martin (1992, 1995) defends a similar view, according to which there is no distinctive positive phenomenology of ownership as such, no felt 'myselfness' that goes over and above the mere experience of one's bodily properties. In his view, bodily experiences are the be-all and end-all of the sense of ownership.

On the deflationary conception of ownership the sense of ownership consists, first, in certain facts about the phenomenology of bodily sensations and, secondly, in certain fairly obvious judgements about the body (which we can term judgements of ownership). (Bermúdez, 2011: 161)

What marks out a felt limb as one's own is not some special quality that it has, but simply that one feels it in this way... a limb or a sensation count as apparently belonging to one's body simply by being felt. (Martin 1992: 201–2)

Here I will present a series of counterarguments against the deflationary conception of ownership. First, I will argue that there are belief-independent illusions of ownership. Secondly, I will show that one can have bodily sensations with no sense of ownership. I will then conclude that the notion of 'experience of ownership' is a good explanatory tool to account for these borderline situations.¹

1 Experiences of ownership should not be conceived as purely 'raw feels' without representational properties. Rather, when experiencing bodily ownership, one represents one's body as of one's own.

1. *Illusion of bodily ownership*

Bermúdez bases his argument in favour of the deflationary account on Anscombe's theory of knowledge without observation. Anscombe (1962) claims that one does not know the position of one's body on the basis of bodily sensations because knowledge can be based only on sensations that are independently describable. We have sensations of bodily posture, but they are not separately describable. Hence, knowledge of bodily posture does not derive from bodily sensations. Bermúdez applies this analysis to the sense of ownership. He argues that the experience of ownership cannot be independently describable. There can be nothing more than what is articulated in the judgement of ownership. Hence, one knows that this body is one's own, but this knowledge is not based on the experience of the body as of one's own.

However, Bermúdez's argument fails to show that one does not experience one's body as of one's own. Anscombe herself did not deny the existence of sensations that accompany position (e.g. 'pressure here, a tension there, a tingle in the other place' Anscombe 1962: 72). What she denies is that these sensations play an epistemic role for knowledge of bodily posture. Hence, at most what Bermúdez shows is that one is not aware that this is one's hand in virtue of having experiences of ownership. One is aware that this is one's hand simply in virtue of having bodily sensations. No more is required. But that does not show that one has no experience of ownership. This only shows that if one has such experience, then it plays no epistemic role.

Still it is not even clear that one should grant Bermúdez that the experience of ownership cannot be separately describable from judgements of ownership. On one interpretation of Anscombe's rather opaque notion of 'separately describable sensations', a sensation of x is separately describable if one can have a sensation that presents one as being x whilst correctly believing that one is not x (Harcourt 2008). For experiences ownership to be separately describable, there must be cases in which one reports feeling as if a body part belonged to one while correctly judging that this is not one's own body part. Interestingly, this seems to be typically the case in the Rubber Hand Illusion, which has become *the* experimental design to investigate the sense of ownership (Botvinick and Cohen 1998). In the classic set-up of the illusion, participants sit with their left arm resting on a table, hidden behind a screen. They are asked to fixate at a left rubber hand presented in front of them, and the experimenter synchronously strokes with two paintbrushes both the participant's hand and the fake hand. After a couple of minutes, the majority of participants report that they feel tactile sensations on the rubber hand, instead of their biological hand that is stroked. When asked in a questionnaire, they report feeling as if the rubber hand belonged to them. At the behavioural level, they mislocalize their hand in the direction of the rubber hand. In addition, when they see the rubber hand being hit by a hammer, while their biological hand is not threatened, they display an affective physiological

response similar to the one induced by threats towards their own hand (Ehrsson et al. 2007).

This illusion uses a well-known principle in psychological literature, namely, visual capture of touch. In a nutshell, when in conflict, visual information wins over somatosensory information in most situations. Of special interest for us here is the fact that participants can feel as if the rubber hand were their own hand while they are clearly aware that this is a *rubber* hand that is stroked in front of them. It then seems that the content of their experience can be at odds with the content of their ownership judgement (e.g. 'It feels like my hand, but I do not believe it's my hand'). As noted by Peacocke (ch. 2):

A hand's being experienced as yours is part of the phenomenology of ordinary human experience. As elsewhere, this phenomenology should not be identified with any kind of judgment 'that's mine'. That judgment is not made (in fact, it is rejected) when a subject knows that he is experiencing the rubber hand illusion, but he still experiences the rubber hand as his.

There are two possible objections against the argument from ownership illusion. First, Bermúdez (2011) argues that one cannot experience fake hands as one's own because one can spatially ascribe sensations only within the limits of one's body. Therefore, he claims, one cannot ascribe the experience of ownership to fake hands. This response, however, is puzzling. If by the limits of one's body, he means the biological boundaries, then this leads him to deny that one can feel sensations in phantom hands for instance. If he means the apparent limits of one's body, as they are represented in the brain, then it should be possible for fake hands to be embodied in the representation of one's body. Then nothing would prevent one to localize sensations in the embodied fake hand. This is actually what happens in the Rubber Hand Illusion. In addition to the ownership illusion, the illusion also consists in mislocalizing tactile sensations *on the rubber hand*. And if one can feel tactile sensations in fake hands, then why not the experience of ownership?

A possibly more promising way to reject the argument from illusion is to deny that the Rubber Hand Illusion is a belief-independent illusion of ownership. It is indeed unclear what participants exactly report, their experience or their judgement of ownership. Typically, they are asked to rate the extent of their agreement or disagreement with statements such as 'it seemed like the rubber hand belonged to me', 'it seemed like the rubber hand was my hand' or 'it seemed like the rubber hand was part of my body'. For instance, on a scale that goes from -3 (strongly disagree) to +3 (strongly agree), 131 participants rated ownership at +0.4 after synchronous stroking and at -1.2 after asynchronous stroking (Longo et al. 2008). These results are difficult to interpret. One may argue that the weakness of the ownership rating in the synchronous condition merely shows the lack of ownership at the

experiential level. On this view, participants report their degree of confidence in their judgements about the rubber hand rather than their experience. But what reasons does one have for not taking the participants at their words when they claim that they *experience* the rubber hand as their own? The statements describe appearances ('it seemed like'). In addition, the ownership illusion is associated with behaviours that indicate that the report that the rubber hand seemed like one's hand is not a mere way of speaking. They mislocalize their hand towards the rubber hand without being aware of it (they do not report feeling it closer to the rubber hand) and they affectively react vividly when the rubber hand is threatened. These behaviours can be taken as evidence that the illusion does not occur only at a cognitive level, but also at a lower sensory and affective level. One may then argue that the weakness of the ownership rating reflects the elusiveness of the phenomenology of ownership in general.² There is little doubt that if there are experiences of ownership, they are not vivid, or at least not to the same extent as painful experiences, for example. Otherwise, there would be no dispute whether experiences of ownership exist or not. But the fact that they are not readily available to introspection does not imply that they do not exist. Actually, although one receives a constant flow of information about one's body, one is most of the time barely aware of one's body. While typing on a laptop, one does not vividly experience one's fingers on the keyboard. The conscious field is primarily occupied by the content of what one is typing, and more generally by the external world rather than by the bodily medium that allows one to perceive it and to move through it. At most, the body remains at the margin of consciousness (Gurwitsch 1985; James 1890). Likewise, one may claim that the phenomenology of ownership, like most of bodily awareness, is recessive and marginal. For all that, there is no reason for denying that one does not experience one's body as one's own.

2. *The lack of ownership*

Let us now consider Martin's argument in favour of a deflationary account of ownership. In his view, if the phenomenology of ownership is not exhausted by the phenomenology of bodily sensations, then there should be cases in which one experiences bodily sensations while experiencing the converse of ownership, namely, disownership:

If the sense of ownership is a positive quality over and above the felt quality of the sensation and the location – that there is hurt in an ankle

- 2 The referee offered an interesting alternative interpretation for the low ownership rating. Participants may have only a quasi-experience of ownership that is similar to some extent, and to some extent only, to the way one normally experiences one's body. This understanding of the Rubber Hand Illusion actually goes in line with the view I defend. Indeed, if there is something like a quasi-experience of ownership, then there must be something like a 'normal' experience of ownership.

for example – then it should be conceivable that some sensations lack this extra quality while continuing to possess the other features. Just as we conceive of cold as the converse quality of warmth, could we not also conceive of a converse quality of sensation location such that one might feel pain in an ankle not positively felt to belong to one's own body (...) we can make no sense of either possibility. (Martin 1995: 270)

According to Martin, the sense of ownership is 'possessed by all located sensations' (1995: 277). Hence, there is no 'extra quality' of ownership. One may, however, worry about the scope of Martin's claim. Is it true that one has a sense of ownership for every single bodily sensation that is felt as of being located? There are some cases in which it may be dubious, like internal organs.³ Another problematic series of cases can be found in projected sensations in extraneous objects. One can localize sensations beyond the actual limits of one's body like in phantom limbs, rubber hands and tools. Yet, those sensations do not systematically possess a sense of ownership. It is true that participants feel the rubber hand on which they localize tactile sensations as their own. But while having dinner, one does not experience the cutlery as part of one's body in the same way as one's hands. And this is so despite the fact that one feels the resistance of the steak *in the knife*. Nor does one behave in a way that indicates awareness of the cutlery as of one's own. Typically, one uses a spoon to stir the pot of boiling soup instead of one's fingers. If a body part 'counts as apparently belonging to one's body simply by being felt' and if projected sensations are on a par with sensations localized in one's actual body, then any object in which one localizes sensations should 'count as apparently belonging to one's body'. But this is not the case.

A proponent of the deflationary conception may object to the claim that one can feel sensations in external objects like tools, or at least that these sensations are of the same type as the sensations that one experiences in one's limbs. One may, for example, claim that a blind individual experiences pressure first in her hand and then projects the sensation on the tip of her cane when touching the floor. Because she is aware of the contact between the cane and the floor only indirectly, one should not expect her to experience the cane and the hand in the same way. However, the fact is that sensations at the tip of the tool are often more salient than sensations of holding the tool in the hand. At the experiential level, one is not aware of 'projecting' sensations to tools. Rather, it seems immediate. There is also some empirical evidence that indicates that tools are processed as parts of one's body. For

3 For example, William James (1890: 242) notes: 'certain parts of the body seem more intimately ours than the rest'. Interestingly, in Kilivila (Australasian language of the Trobriand Islanders), body parts like arms or legs are always associated with a possessive pronominal suffix indicating a degree of intimate possession, whereas internal organs are associated with a term indicating a more distant possession (Senft 1998).

example, after tool use participants mislocalize the centre of their arms as if their arms were longer (Sposito et al. 2012). Finally, it was found that sensations in body parts and in tools follow the same spatial principles. When your hands are crossed and your eyes closed, you have difficulties in judging which hand was touched first. Likewise, when your hands are not crossed, but you hold two sticks that are crossed, you experience the same difficulties in judging which stick was vibrated first (Yamamoto et al. 2005). This indicates that the vibration was experienced as of being located at the tip of the sticks (which were crossed) rather than on the hands that hold them (which were uncrossed). Hence, feeling sensations in tools is not a mere way of speaking. It is worth noting that Martin (1992, 1995) himself defends the view that we have sensations in tools that are of the same type as sensations localized within the actual limits of one's body. Still one has no sense of ownership for tools. It seems that it does not suffice for the sense of ownership that one feels sensation located in a body part or an object.

This is confirmed by the possibility of the precise phenomenon that according to Martin 'one can make no sense of', namely the possibility of feeling sensations in a body part that does not feel like one's own. Losing one's body, so to speak, can sometimes take as little as falling asleep on one's arm. When one wakes up, the arm feels numb and almost as an alien dead object attached to one's body. But then disownership results from sensory loss and as soon as one regains sensations in the arm, the alienation ceases. What is more puzzling is that some patients can deny ownership of their limb while still feeling sensations in it. They suffer from what is known as somatoparaphrenia (sometimes called *asomatognosia*, cf. Feinberg 2002) resulting from a lesion of or an epileptic seizure in the right parietal lobe. It is often associated with motor and somatosensory deficits, spatial neglect, anosognosia and anarchic hand. However, somatoparaphrenia cannot be reduced to any of these disorders (Vallar and Ronchi 2009). What characterizes somatoparaphrenia is the denial of ownership of a part of the body.

E: Close your eyes and tell me what you feel when I'm touching your hand.

P: That's not my hand!! . . . It's not mine . . . Someone left it there. I don't know who he was . . . I don't know who attached it to my body.

E: Isn't it a little bit weird to have a foreign hand with you?

P: No! My hand is not like this! (Invernizzi et al. 2012: 148)

Interestingly, it has been reported that a patient cried out of pain when the examiner pinched his 'alien' hand (Melzack 1990). Another patient asked his doctor: 'Once home could I ask my wife, from time to time, to remove this left arm and put it in the cupboard for a few hours in order to have some relief from pain?' (Maravita 2008: 102). A study conducted on two patients

also found that they were able to report with perfect accuracy when they were touched on their 'alien' hand (Moro et al. 2004). Yet, they maintained that the hand on which they felt touch were not their own, but someone else's.

Hence, patients with somatoparaphrenia report feeling sensations in the hand that they disowned. One cannot *a priori* rule out these cases for the only reason that they are not normal because if one were to do so, then Martin's claim could never be falsified. The fact is that any case of bodily sensations associated with disownership is doomed to be pathological, at least in the actual world.⁴ Still one way to disqualify these cases is to claim that the denial of ownership occurs exclusively at the doxastic level. Somatoparaphrenic patients are indeed delusional. One may then be tempted to explain their delusion in terms of reasoning deficits. If so, the fact that some patients deny ownership of their hand cannot constitute counterevidence for the deflationary conception. However, according to the current most influential theory of delusion, the two-factor model (Davies et al. 2001), the delusional belief results from a sensory or motor impairment leading to abnormal experiences that the patient tries to account for. Abnormal reasoning biases participate only in the feeling of confidence associated with the delusion. One may then suggest that in the case of somatoparaphrenia, the abnormal experience is an experience of disownership, which in turn leads to a judgment of disownership. Actually Bermúdez himself (2011) grants the fact that the patients with somatoparaphrenia experience disownership. What warrants this interpretation is the contrast with depersonalization disorder. Those patients feel that their body is no longer their own, but they do not believe it. Although they know this is not true, they still find their experience distressing. Hence, a denial of ownership can occur at the phenomenological level without occurring at the doxastic level.

Nonetheless, Bermúdez (2011) disqualifies this type of disorder because, he claims, experiencing disownership does not necessarily result from the absence of ownership experiences. In his view, the experience of disownership is grounded on some abnormal features of bodily experiences felt in their 'alien' hand, which somehow indicate alienation and which are unrelated to the absence or presence of putative ownership experience. Against this interpretation, it is worth noting that the patients report no difference in their tactile experiences between their 'alien' hand and their other hand, which they feel as their own (for more details, see de Vignemont 2007). Furthermore, their pain behaviour is normal (e.g. wincing, aversive reaction, spontaneous verbal complaint). It thus seems that they feel normal bodily experiences, at least at the phenomenological and behavioural levels. Contrary to what Martin

4 We will not consider here possible worlds in which one can be connected to other people's bodies.

(1995) assumes, one can actually feel pain in an ankle not positively felt to belong to one's own body.

To conclude, I have reviewed a range of borderline phenomena that can be taken as evidence against the deflationary conception of ownership. Each case may be open to other interpretations, but taken all together, I believe that they constitute a strong support for my view. The notion of ownership experience can account for a range of various phenomena in a parsimonious way. It is a useful simple explanatory tool, which allows for a single unified explanation of ownership illusions, for phenomenological differences between sensations in one's limbs and in tools, and for disownership pathologies. There is something it is like to experience parts of one's body as one's own, some kind of non-conceptual intuitive awareness of ownership.⁵

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Liar!

JONATHAN WEBBER

Successful lying and misleading are both forms of intentional deception by means of language. The liar deceives by false assertion, the misleader by false conversational implicature. I argue that society has good reason to respond with greater opprobrium to the liar than to the misleader, that each member of society has good reason to disdain lying more than mere misleading, and that each of us would be wise to avoid the greater dishonour of being branded a liar. My argument rests on the point that lying damages both credibility in assertion and credibility in implicature, whereas misleading damages only credibility in implicature.

I further argue that deceptive communication without regard to truth value, which Frankfurt memorably identified as the essence of bullshit, should be understood in the same framework. Bullshit conversational